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William Stout, a Forgotten Student of Ferns

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Literary critics, I believe, argue that there can be no such thing as a "mute, inglorious Milton"; if one were really a Milton, he would not be mute. But, however, it may be with poets, botanists know that among them an analogous phenomenon can, and does, take place. Every now and then an amateur, known in his lifetime only to a small circle of friends and correspondents, dies, and there are found in his herbarium, or his note-books, or his letters, observations and comments showing a high degree of scientific attainment—better, sometimes, than much which finds its way into print. Such a case was that of William Stout.

A man of his quality does not often, let us hope, disappear quite so completely below the botanical horizon. Up to 1922 any one seeking information about him would have found in the *Botanical Gazette* a brief note stating that his herbarium had been given to Brown University, and perhaps a reference or two elsewhere in literature—nothing more. In December of that year, however, Miss Mary Elizabeth Davenport gave to the Gray Herbarium the personal fern collection of her father, George E. Davenport.¹ With the specimens were found a con-

¹ I say personal collection to distinguish it from the Davenport Fern Herbarium, a set of selected specimens of North American ferns which he got together and presented to the Massachusetts Horticultural Society, in whose building in Boston it is now preserved.

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siderable number of letters and among them a series from Stout, of most unexpected interest. Of these I have already given some account (in *Rhodora* 26: 52-55); it need only be said here, by way of recapitulation, that they showed that about 1879 Stout, an untrained amateur, starting with an attempt to name a specimen collected by himself in California, had gradually arrived at a classification of the difficult group of *Cheilanthes myriophylla* which in all essentials and in most details was quite like that worked out independently some forty years later by the experienced skill of Dr. Maxon. Stout submitted his revision to D. C. Eaton, Davenport, and J. G. Baker at Kew; after some fluctuation of opinion, all three rejected it, though in the end Davenport partially took it up in his herbarium. Stout himself refused to publish it.

In 1924 Miss Davenport generously added to her former donation the gift to the Gray Herbarium of the greater part of her father's botanical correspondence. In it are more letters from Stout, which, taken together with the others, form a fairly complete series from the beginning of his correspondence with Davenport in November, 1878, to his death some three and a half years later. These letters, with a few to Professor Eaton, very kindly loaned me by Dr. George F. Eaton, of New Haven, are the only source of information about Stout which I have been able to discover, though I have held this article for three years in the vain hope that something more might be found.

The letters do not yield much biographical matter; Stout was interested in ferns and wrote about them, not about himself. But they do give some facts. His father's name was Richard; he had a sister, Anna, and two brothers, Richard and George. He lived in New York City. He was of a consumptive tendency and dur-

ing the whole period covered by this correspondence more or less of an invalid. He often speaks of having to limit his activities because of lack of strength; in the photograph of him preserved among the Davenport papers and reproduced herewith by courtesy of the Gray Herbarium, his physical frailty is apparent. He was obliged to be away from the city during the extreme weather of both summer and winter; his working time must, therefore, have been confined to comparatively brief periods in spring and fall.

He was in California during parts of the years 1876 and 1877 and was able to do some collecting in the Yosemite and in the San Jacinto and San Bernardino Mountains. He cannot have done much before, for he speaks of having taken some of the California specimens when he had "no botanical interest." In the East he collected about Blue Mountain Lake in the Adirondacks and at Mt. Mansfield, Vermont, and somewhat in the mountains of North Carolina and Georgia, whither he regularly went for a part of each winter.

His personal collecting, however, like Davenport's, formed but a small part of his herbarium. Unlike Davenport, he did not confine himself strictly to ferns, but they were the chief objects of his interest. He bought and exchanged them eagerly and, so far as letter-writing would do it, was indefatigable in the pursuit of specimens he wanted. In the end, he got together an herbarium which included all but about half a dozen of the ferns then known from North America north of Mexico, and a large number of foreign species. And it was a critically determined collection, so far as he could make it so. "I like," he wrote, "to be *sure* of my specimens and am trying to learn, one at a time, to know the North American ferns thoroughly." He went at the job with earnestness. He studied his own specimens and

what he could borrow and sought collateral information from all available sources. One suspects, though no word of Eaton's hints at such a thing, that he may at times have been rather a nuisance to the good professor in his eagerness to find out what a given specimen should be called and especially why.

The opinions resulting from his studies he set down freely in the letters now at hand. They strengthen the impression given by the first series—that he was a man of keen observation, unusually sound taxonomic judgment, and an originality extraordinary in an amateur of so little experience. It kept him more or less constantly in protest against the too broad view of species prevalent in his time and the too frequent neglect of minute characters, such as the structure of the scales of the rhizome, which seemed to him—and rightly—of much significance. “The position Mr. Davenport has virtually taken,” he wrote to Eaton in December, 1879, “that no good distinctive character exists in scales, is untenable & one which will embarrass him . . . & I doubt if he clings to it long. . . . The rhizome scales will determine mutilated, ill-conditioned & doubtful specimens of *P[olypodium] pectinatum* & *P. Plumula* & also *Asple[nium] parvulum*, and *A. ebeneum*. I think when there is sufficient difference in the structure of the scales of two plants to make them always easily distinguishable by them that the character is just as good as if scales were present in one plant and absent in another—as in *Ch[eilanthes] Eatoni* and *Ch. tomentosa*.” It seems curious now that such an argument should have been needed; but there was still occasion for it in Stout's time.

Stout's most complete and thoroughly worked out accomplishment was his treatment of the scaly *Cheilanthes* of the southwestern United States, already referred to.

His reasons for not publishing it are given in a letter to Eaton (Dec. 19, 1879). "It is not because I have any misgivings . . . nor because I have not the courage of my opinions that I must decline to publish the contemplated new species myself; but simply because I am unwilling to assume a position for which I am not qualified & for which my low state of health will prevent me from becoming qualified. I often suffer from over-application & study &, deeply interested as I am, I know I must hold myself free to lay the work down when I choose or when I must. Fond as I am of ferns I feel a reluctance to have them growing over me prematurely." The modesty and scientific conscience here shown, as well as the humorous turn with which he closes the matter, are characteristic. Another passage (from a letter to Eaton, Nov. 24, 1879) sets forth his point of view with a touch of rather engaging ingenuousness. "I would gladly be spared the friendly tilt I must have with Mr. Davenport about this matter & congratulate myself on the worthlessness of my opinion, as the consequences to me will be insignificant if I am proved in the wrong. It must be a fearful thing to be an authority, especially to be the highest authority."

But though Stout would not publish, he never gave up his opinion as to the *Cheilanthes*. Not long before his death he wrote to Davenport: "I doubt if the scaly *Cheilanthes* ghost will be laid till this plant [he refers to *Cheilanthes Covillei* of Maxon] is given specific rank." I think the collectors who were, for years after, haunted by it² would agree that it was not laid until this very thing was done.

It may be that the unfavorable reception of this revision somewhat discouraged Stout; in any case, it remains his most finished piece of work, as it was his first.

² See Maxon, Proc. Biol. Soc. Washington 31: 139-140.

But there are, scattered through his letters, records of other bits of investigation which are worth preserving.

In 1880, he noted, at least partially, the differences among the dareoid *Aspleniums* of Florida, then referred to *A. myriophyllum*, which led to Davenport's (1883) and Eaton's (1887) segregation of varieties and later (1906) to Underwood's division of the plants concerned into three species, *A. Curtissii*, *A. biscaynianum* and *A. verecundum*.

He observed (1881) the appressed pubescence on the under surface of the pinnules of *Pteridium caudatum*. This, though absent in an occasional glabrate form, is one of the useful distinguishing characters of the group to which *P. caudatum* belongs; but no mention of it is found in the standard works of Stout's time. Hooker describes the plant as wholly glabrous.

Without knowing of Mettenius's publication, he distinguished *Pellaea intermedia* (1881) from *P. andromedaefolia* and *P. flexuosa*, to one or the other of which it was then referred, remarking that it was either *P. cordata*, which he knew only from description, or new. Davenport took up *P. intermedia* in 1886 and it has been generally recognized since.

He pointed out (1881) that a plant collected by Rusby in New Mexico and referred by Eaton to *Notholaena dealbata* was at least varietally distinguishable from that species by the larger size, proportionally narrower frond and more numerous pinnae. This is the plant treated by Maxon (1919) as subspecies *mexicana* of his *N. limitanea*, of the typical form of which only a tiny fragment was known to Stout.

He planned (1881) a study of the "mucronate Pellaeas," the group of *P. mucronata* recently (1918) revised by Maxon, but apparently never began the work.

He maintained (1882) that *Aspidium aculeatum*, var. *scopulinum* Eaton (*Polystichum scopulinum* Maxon) belonged with *P. mohrioides* rather than with *P. aculeatum*, indeed, that it was probably only a variety of the former. Davenport, regarding *P. scopulinum* as intermediate between the other two, apparently suggested that all three should be united under one species, for Stout writes to him: "I doubt if it is well, because it partakes of the characteristics of the two plants, to run them together. If the three plants were united under one name, could any specific description be written by which they could all be recognized? . . . I think too much lumping of related plants only tends to confusion and is, therefore, to be deprecated. . . . From what I have seen of the plants the only thing in *scopulinum* to separate it from *mohrioides* is its aculeate teeth, which again is really the only thing in it which strongly suggests *aculeatum*. Its indusium apparently agrees with *mohrioides* & here, I suspect, is a distinction from *aculeatum*. My impression is that the smaller plant has much the larger involucre, even if there be no other difference." Probably no one would now question the affinity of *P. scopulinum* with *P. mohrioides*; and the most recent investigator of the group (Fernald, 1924) has made precisely the disposition of it which Stout suggested, treating it as a variety of *P. mohrioides*.³

Stout's last work (1882) was a painstaking microscopic study of the indusia in *Woodsia*, with a view to the better arrangement of the species. Here, like others who have followed him, he arrived at no very definite conclusions. He thought it might be possible to distinguish, at least varietally, one other southwestern form in

³ In speaking of *P. mohrioides* Stout very likely had in mind the Californian *P. Lemmoni* Underw., but this is so close to certain forms of the original South American *P. mohrioides* that the general correctness of his conclusions is not affected thereby.

addition to *W. Plummerae*—the plant, namely, distributed by Lemmon as *W. obtusa*, var. *nana*. He remarked that *W. scopulina* “seems to occupy a position so immediately between *obtusa* and *Oregana* that heaven is to be thanked for the minute, slender, jointed hairs it bears, which go a long way toward separating it specifically from its neighbors.” He makes an observation on *W. oregana* which may be of some interest. “The whole texture of the plant seems to be resinous & the involucre is hard & brittle as though agglutinated & adheres to the lamina so that it is very difficult to remove it without fracture. *Mexicana*, on the other hand, yields its indusium in the same tractable way that *obtusa* usually does.”

On June 19th, 1882, he wrote to Davenport that his work on the *Woodsias* was finished. On the night of June 23rd he “was seized with a severe hemorrhage & on the 28th he died very peacefully.”

In three and a half years, with no previous experience, with wretched health and limited working time, Stout had perceived where lay most of the unsolved problems in the classification of our southwestern ferns (to which his attention was then particularly directed) and in several cases had anticipated the solution of them reached long afterward by other workers. It is, of course, to be emphasized in this connection that he held, to the end, to his habit of never making his conclusions in any way public; he merely set them down in private letters to Eaton or Davenport. Until I saw them, these letters had probably never been read by any one but their recipients; the most that was known of their contents was a vague hint as to the *Cheilanthes* in notes in the Eaton herbarium, duly recorded by Dr. Maxon. Other-

wise, the later investigators who, quite independently, duplicated Stout's conclusions, were hardly aware even of his existence. The remarkable thing is that he, with meager facilities, was able to proceed so far on the road which fern taxonomy was to follow after his time. Had he lived and had his health, there would have been much less left for the rest of us to do.

He left his herbarium largely unmounted. He says he spent so much time in studying his specimens that little remained for mounting or arranging them. In the four years following his death his sister filled up gaps in the collection and mounted and labelled the whole, which was then presented to Brown University, where it now is. Miss Stout has said that her brother rarely made notes; and faithful and devoted as she obviously was, she sometimes used her own judgment as to preserving those he did make. She wrote to Davenport that he had marked certain plants "new species"; "I did not add it, doubting as I did whether he would have done so now." So that one cannot be wholly sure that a given sheet at Brown is labelled strictly according to Stout's ideas or even that he saw it. But at least the specimens remain as a memorial to one who, under happier circumstances, might have ranked high among American pteridologists.

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